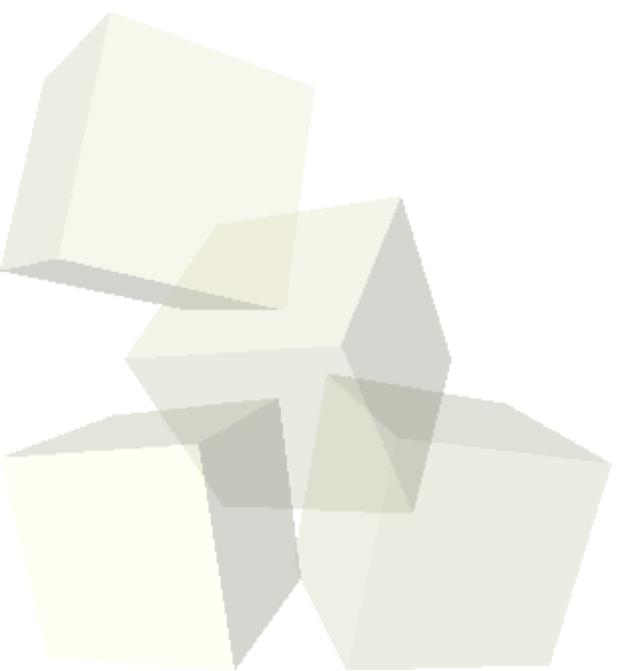




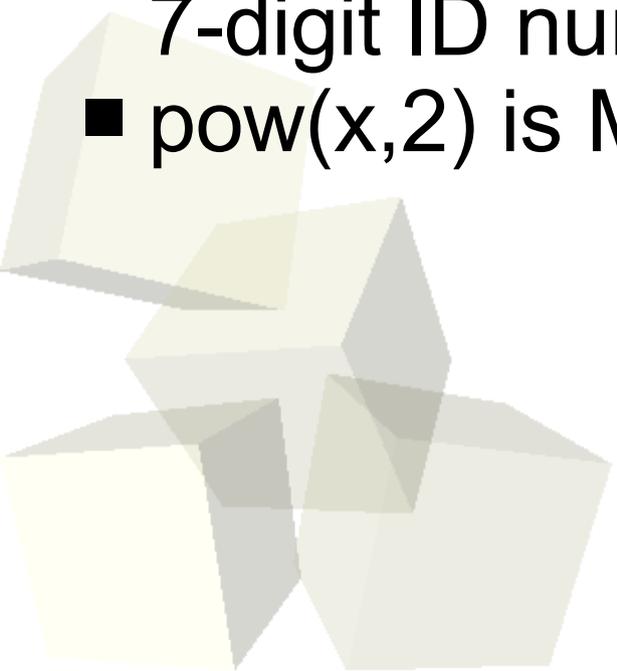
9/19/2007





Opening Discussion

- Let's look at some solutions to the interclass problem.
- How should you study for quizzes/tests? Do I have answers for book questions?
- Why are there more constructs in C than we have discussed?
- Checking grades online: standard user name and 7-digit ID number.
- `pow(x,2)` is MUCH slower than `x*x`.





Basic Recursion

- Combining function calls and conditionals also allows us to begin exploring recursion.
- Recursive functions are simply functions that call themselves. The call must be conditional otherwise you have infinite recursion.
- To really see how recursion works we need to understand the call stack. This is a bank of memory on the computer the program uses to store variables and information related to what is happening in the program. Each time a function is called, a new stack frame is “pushed” with the memory that function needs. When the function returns the stack frame is “popped”.



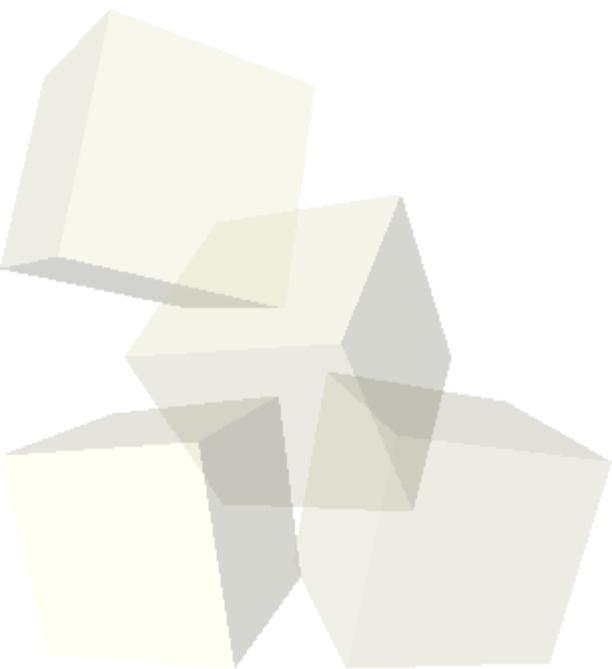
Switch Statements

- If statements can do everything you need, but for some situations they are overly bulky.
- The switch statement allows you to select from many possible paths based on an integer argument.
- The syntax of switch is as follows.

```
switch(int-expression) {  
    case intConst1:  
        statements  
        break;  
    case intConst2:  
        statements  
        break;  
    ...  
    default:  
        statements  
}
```



- Let's use the things we've talked about today in a sample program.





- What happens if you accidentally leave out a break statement in a switch?
- Interclass Problem – Do problem 50 on page 295. Actually, do it twice. Write one function that does it with if and another with switch. Give each function a name fitting for how it works.

